present, being in one case nearly as large as the constant first premolar, while in another it is a mere rudiment; in the other *four* examples it is altogether absent. In the number of the functionless teeth of the lower jaw (which I carelessly called small incisors in my previous paper, but which Professor Owen regards as the homologues of the canines and anterior premolars[1]) there is the greatest possible variety, one example having *three* in one ramus and *none* at all in the other; three, however, appears to be the normal number. These differences have nothing to do with the age of the individual; for the extra upper premolar is absent in a half-grown animal, and the small lower teeth are present in one of evidently great age.

It appears, therefore, that the dentition of this genus is even more variable than has been believed, and that the existence of the additional teeth must be dropped from the specific characters of *C. orientalis*. I may add that in several of these specimens, which are all females, the dark dorsal stripe is absent; this also has been regarded as a diagnostic character.

7. Descriptions of three new Species of Opisthobranchiate Mollusca from New Zealand. By S. T. Cheeseman, F.L.S., Curator of the Auckland Museum.

[Received January 29, 1878.]

(Plate XV.)

From a number of new species of Opisthobranchiate Mollusca collected in or near Auckland Harbour I have selected for description the three following prominent forms.

1. Pleurobranchus ornatus, n. sp. (Plate XV. figs. 1, 2.)

Body 3–4 inches long, broadly elliptical, depressed, nearly equally rounded at both ends, colour varying from pale buff to a clear reddish brown, with irregularly disposed blotches of a rich dark red-brown; mantle large, extending over and concealing both head and foot, quite smooth, margin thin, entire; dorsal tentacles short, stout, abruptly truncate, finely transversely wrinkled, approximate at their origin, but gradually diverging at their apices; colour reddish brown tipped with white; eye-specks black, placed a little distance behind the tentacles, embedded in the integument, but appearing through it; oral tentacles united in front by a thin semicircular expansion which forms a veil concealing the mouth, and which is carried in advance of the foot; mouth roundish, with fleshy lips; buccal plates two, regularly reticulated; odontophore with numerous rows of similar unciform teeth. Branchial plume placed in the groove between the foot and the mantle, very large,

[1] Odontography, i. p. 382.

composed of about 22–24 pectinations; foot oblong, thin and flexible, pale waxy white.

Shell internal, $\frac{1}{2}$ to $\frac{3}{4}$ inch long, squarish oblong, thin and membranous, semitransparent, slightly iridescent, closely marked with somewhat irregular concentric striæ or folds; colour varying from nearly white to pale pinkish or tawny brown. Spire minute, obscure, mouth occupying the whole of the undersurface.

My first specimens of this handsome species were obtained from under stones between tide-marks in Auckland Harbour; where, however, it is by no means common. Near Waiwera and in some other localities on the Hauraki Gulf it is much more frequently met with. It is easily kept alive in an aquarium, but is very sluggish in its movements.

2. Pleurobranchæa novæ-zealandiæ, n. sp. (Plate XV. fig. 3.)

Body oval, convex, thick and fleshy, smooth and lubricous to the touch, but the whole surface nevertheless covered with minute puckers and folds. Colour light grey, copiously streaked with irregular anastomosing lines of dark greyish-brown, and sprinkled with numerous minute and almost microscopic white dots. Mantle smooth, not nearly so long as the foot, and not concealing the branchiæ, rather broader on the right side; oral veil broad, extending over and concealing the mouth, in front semicircular, and with a delicate fringed margin, but at each side produced into a short tentacle-like lobe; mouth large, round, in a state of rest concealed in the sulcus between the oral veil and the foot, but capable of being greatly protruded in a proboscidiform manner; buccal plates two, large, finely and regularly reticulated or faceted; odontophore broad, with numerous rows of similar unciform teeth; tentacles dorsal, wide apart, short and stout, projecting outwards, folded down the outer side, tips obliquely truncate; eyes minute, black, placed within the integument at the inner bases of the tentacles, quite internal, and not to be seen without dissection; foot long, extremely flexible, sole pale ashy grey; branchial plume often over an inch in length, and free for half that distance; pectinations about 17, finely ciliated; shell none; length 2·5 to 3·25 inches.

This species is very abundant in Auckland Harbour, usually affecting sandy or muddy localities. In the winter and spring months large numbers are often exposed at neap tides, having probably come into shallow water to deposit their ova. Capt. Hutton, of the Otago Museum, informs me that he has collected the same species at Port Nicholson. It is hardy and not easily killed, and may be kept in confinement for a long time. When in a healthy state it is by no means inactive, crawling along by means of its muscular foot much more quickly than might be expected. It has a curious habit of floating in a reversed position, just under the surface of the water; and I have also observed it swimming by means of rather violent vertical undulations of its body.

3. Aclesia glauca, n. sp. (Plate XV. fig. 4.)

Body from 3 to 5 inches long, about ovate when at rest, but capable of considerable extension, a little contracted behind the head, then elevated, and suddenly sloping to a point posteriorly; entirely covered with numerous simple and branched tentacle-like processes, the largest of which are sometimes eight lines long. Colour on the sides pale greyish-brown, passing on the back into a dull sea-green; the whole surface with numerous irregularly shaped black blotches that are longest on the back. Along the back there is also a double row of from 8 to 12 emerald-green specks, each surrounded with a zone of umber. Dorsal tentacles $\frac{3}{4}$ inch long, folded down the outer side so as to appear tubular, beset with filiform appendages. Labial tentacles similar in shape, but rather larger. Branchial cavity large, protected by the folded-in edges of the mantle, branchiæ quite internal; foot long and narrow, pointed behind, without side-lobes as in *Aplysia*, sole pale sea-green; mouth roundish, placed under the head; odontophore with very numerous rows of simple hooked teeth; gizzard strengthened with large triangular calcareous plates; shell none.

Like many of the species of the allied genus *Aplysia*, this animal possesses the power of emitting a purple fluid from the edges of the mantle, but only in small quantity; and it may often be handled without any thing of the kind being observed. All my specimens are from Auckland Harbour, and were obtained from rather sandy localities near the extreme verge of low-water mark.

EXPLANATION OF PLATE XV.

Fig. 1. *Pleurobranchus ornatus.*
2. Shell of the same.
3. *Pleurobranchæa novæ-zealandiæ.*
4. *Aclesia glauca.*

8. On a new Species of the Genus *Buceros*. By Arthur, Marquis of Tweeddale, F.R.S., President of the Society.

[Received February 2, 1878.]

In a collection of birds made at Amparo (in the extreme south of the Philippine island of Leyte), and sent to me by Mr. Everett, are some examples of a Hornbill of the genus *Buceros*, which differ from the two other known Philippine species[1] sufficiently to require description. The characters which differentiate the large *Buceros* of Mindanao, *B. mindanensis*, from the one which inhabits Luzon were stated some months ago before this Society (see P. Z. S. 1877, 543). But in those two species the form and general contour of the bill and casque are alike, whereas in this second representative form of *B. hydrocorax* the form of the casque is very different. The colouring of the bill resembles that of *B. mindanensis*; and in

[1] *B. hydrocorax* and *B. mindanensis*.